

Reduction of flood risk vulnerability: A case study in Kalukunnamaduwa GN Division of Boo Oya stream in Vavuniya

Extended Abstract

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Background

A flood is defined as a body of water that rises to overflow into land settlements which are not normally under water (Aritina, 2012). Flood invariably creates the problem of a serious nature. Boo Oya is located in Kalukunnamaduwa GN division of Vavuniya South DS division in Vavuniya district. This is a natural stream flow through the border of the village which provides a number of benefits to the mankind as well as becomes hazard initiator to them in rainy seasons. The entire Vijayabagama village and some other dwelling at the vicinity of the Boo Oya are inundated in rainy seasons due to overflowing this stream. In heavy rain duration, about 30 families in Vijayabagama are affected by floods. Also local business industries and transport system of A9 road can be obstructed by overflowing Boo Oya stream.

Objectives

The general objective of this research was to propose a suitable solution to make people protect with minimal damage. Specific objectives were to study flood management practices, recognize various flood management methods make affected people ensure minimizing flood vulnerability and propose recommendations for reducing flood risk.

Methodology

Two main data collection methods have been used primary and secondary data. Especially the primary data has played a vital role. Here field visit, informal and formal interviews, participatory and observations were used as primary data collection method. Because this research is based on GIS map analysis, various spatial data related to GIS has been used to create relevant maps (Abderrahim, 2015). Spatial GIS datasets can include surgical geological characteristics of the region namely land use, physical features, the location of structures, vegetation as well as critical facilities (Abdellah,

2002). 29 GPS locations were taken from each household to recognize the flood affected houses of this particular area. The projection was GCS WGS 1984. A questionnaire survey was also conducted to have sociological information. The GIS software was used to analyze data as a tool. And also SPSS software was also used for supplementary analysis.

Results

The only thing that people have to do in flood season is going to an evacuation center situated in Kalukunnamaduwa. People have also come here not knowing what to do, but they were brought here to protect the bridge of Kalukunnamaduwa from LTTE. Under the Participatory and listening observation, the researcher has met some villagers of this village. They said that they had no solutions during flood season. The only thing they do is going to the evacuation center situated in Kalukunnamaduwa. Also they had been brought to protect the bridge of Boo Oya from LTTE. According to the view of people they will have not a proper livelihood if they are brought to a new place. At the same time, they have not a lot of spends to build a new house like these permanent houses. According to the divisional secretariat in Vavuniya DS division, he said that people don't like to go anywhere even though the land is allocated by the government.

Conclusion and recommendation

The government has tried to give an alternative land for the people few times, but people haven't agreed because, though the lands were given, government hasn't promised to allocate money to build a new house. The thing was that if both land and houses are given by the government, they are willing to move anywhere. The government has no idea about a place to which the people should be brought. This research gives a formal and regular recommendation land for this burning problem. The people do not like to be settled anywhere without a house, therefore, the government should allocate houses in the new place with other social physical facilities.

Key word: Flood, Rainy Season, Overflowing, stream, GIS

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References

Abdellah, B. 2002. Development of a SWMM – GIS flood model for new Orleans drainage pumping station Efrain Giron. Orleans: University of new Orleand.

Abderrahim, L. 2015. Integration of GIS and HEC-RAS inflood modeling of the Ouergha river northern Morocco. Morocco: Faculty of science.

Aritina, H. 2012. A study case of Baranca drainage basin flash-floods using the hydrological model of Hec-Ras,. Romania: University Suceava.